United Nations ST/SG/AC.10/C.3/2014/21

Secretariat

Distr.: General
27 March 2014

Original: English

Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods

Forty-fifth session
Geneva, 23 June – 2 July 2014
Item 4 (c) of the provisional agenda
Listing, classification and packing: miscellaneous

Neutron radiation detectors – minor amendments

Transmitted by the Dangerous Goods Advisory Council (DGAC)[1]

Introduction

1. This document seeks to resolve a difficulty with the requirements in the final paragraph of SP373 as they pertain to small radiation detection systems (i.e., with 1 gram or less of boron trifluoride per detector). SP373 was adopted for inclusion in the eighteenth revised edition, on the basis of ST/SG/AC.10/C.3/2012/60 (and Corr.1). It covers the transport of neutron radiation detectors and detection systems containing small amounts of boron trifluoride at low pressures and in high integrity containment devices (radiation detectors).

2. Implementation of the SP373 has identified a difficulty relating to the transport of small radiation detection systems with 1 gram or less boron trifluoride per detector, as the requirements apply to existing equipment. These small detection systems are commonly portable devices. They are essential for purposes of radiation safety and security. Based on prior competent authority advice, they have historically been transported as not subject to the Regulations. Such transport has been without incident involving the toxic gas for more than 70 years. There is a need for some users to transport them in emergency situations.

3. As SP373 was written, the following requirement in subparagraph (c)(ii) applies to these small detection systems:

[1] In accordance with the programme of work of the Sub-Committee for 2013–2014 approved by the Committee at its twenty-sixth session (see ST/SG/AC.10/C.3/84, para. 86 and ST/SG/AC.10/40, para. 14).

"The housing shall contain sufficient absorbent material to absorb the entire gas contents."

4. Adsorbent material would normally be placed in the detection system housing at the time of manufacture. Detection systems containing detectors with 1 gram or less of boron trifluoride have been in use for approximately 70 years and these detection systems currently in use do not include adsorbent material. Inclusion of adsorbent material in the housing of existing systems by users introduces practical problems. Considering the small amount of gas, the integrity of the systems, and the prior safety record, it is proposed that adsorbent material not be required for detection systems containing detectors with 1 gram or less of boron trifluoride.

5. **Editorial correction.** While the text in (b) (i) and (c) (ii) refers to "absorbent", the material used "adsorbs" boron trifluoride. It is recommended that these subparagraphs be editorially amended accordingly.

Proposal

6. On the basis of the above, it is proposed that the text in SP 373 be revised as follows:

(a) Revise subparagraph (b) (i) by replacing the words "absorbent" and "absorb" with "adsorbent" and "adsorb", respectively.

(b) Revise subparagraph (c)(ii) by replacing the words "absorbent" and "absorb" with "adsorbent" and "adsorb", respectively.

(c) Revise the final paragraph in SP373 to read as follows:

Neutron radiation detectors containing not more than 1 gram of boron trifluoride, including those with solder glass joints, are not subject to these Regulations provided they meet the requirements in subparagraphs (a) and are packed in accordance with paragraph (b). Radiation detection systems containing such detectors are not subject to these Regulations provided they are packed in accordance with subparagraphs (c)(i) and (iii). Packing instruction P200 of 4.1.4.1 is not applicable."